REMARKS

I. Summary

This amendment and response is in reply to the Office Action mailed November 8, 2010 ("Office Action"). Claims 1-4 and 6-20 were rejected. Claims 1-3, 11-18 and 20 are amended. Claim 22 is new. No new matter is presented.

II. Examiner's Response to Previous Remarks

The assignee thanks the Examiner for withdrawal of the previous rejections and the withdrawal of the finality of the Office Action mailed September 13, 2010.

III. Rejections Under 35 U.S.C. § 103

Claims 1-3, 7-9, 11, 14-16, and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lemmons (U.S. Pat. App. Pub. No. 2003/0028873) in view of Bulman (U.S. 6,351,265), and further in view of Wang (U.S. 6,990,681). Assignee respectfully traverses these rejections. Claims 12 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lemmons in view of Bulman. Claim 20 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lemmons in view of Bulman, and further in view of Patent Application Publication No. 2003/0023981 ("Lemmons '981").

Claim 1:

Claim 1 as amended recites:

> receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received;
> associating each computer generated view of the first set of computer generated views with an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture;
> storing, in a machine-readable medium, the first set of computer generated views and the associated orientation index;

receiving orientation and position data for the moving
object, the orientation and position data captured by a
sensor attached to the moving object;

receiving position data for a camera that captured the
plurality of video images;

determining in each of the plurality of video images a
location, an orientation and a size of said predetermined
area of said moving object, wherein the orientation is
determined using the orientation and position data for the
moving object and the position data for the camera;

selecting, from orientation indices associated with the
stored computer generated views, the orientation index of
the computer generated view having the same orientation as
said predetermined area of said moving object;

using the selected orientation index along with
information on the location and size of said predetermined
area of said moving object to superimpose the preregistered
picture on the plurality of video images to generate the
stream of video.

Lemmons describes a system in which labels are superimposed post-production
into a video stream. *See* Abstract. The labels may include advertising material. *See* Fig. 2,
4A-5B. A central computer contains data files of the labels. "There may be one data file for
each advertiser, or one data file for each advertisement (label) and may comprise a label
712 that exists as graphical information within the data file." *See* ¶ 57. Lemmons also
explains that the data file may comprise "placement and contour data" obtained by
"computer recognition, physical manipulation, or other techniques." *Id.*

Lemmons does not describe "receiving a first set of computer generated views of
the preregistered picture in various orientations at a video receiver before the plurality of
video images is received, [and] associating each computer generated view of the first set
of computer generated views with an orientation index that identifies the physical
orientation of the computer generated view of the preregistered picture," as recited by
claim 1. The Office Action acknowledges these and other deficiencies in Lemmons. *See*
Office Action, p. 6.

Bulman fails to fill in the gaps left by Lemmons. Bulman describes a procedure for
creating a personalized videotape (Example 5). *See* col. 11, lines 46-48. First, a
photograph of a child's head is scanned. The head is digitally cut out using tracing. Next, a

PC workstation scales the scanned-in head into several sizes, which combined with background images of a video story onto a hard disk or VCR. *See* col. 11, lines 2-36.

Bulman's personalized video tape does not teach "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received" because a photograph resized into several sizes is not a first set of computer generated views of the preregistered picture in various orientations. Different sizes are not different orientations. The Examiner acknowledges this distinction and refers to a second embodiment (Example 6) of Bulman. *See* Office Action, p. 3.

In that embodiment, Bulman describes recording a human subject head with a video camera. The subject stands on a turntable which is rotated. The images recorded by the video camera differ in orientation and positioning. *See* col. 13, lines 28-42. However, these images are not a first set of <u>computer generated</u> views of the preregistered picture in various orientations at a video receiver. A video of a human subject cannot be reasonably considered a set of computer generated views.

Bulman also states in a third embodiment (Example 7) that a library of images may include "images varying in perspective, size, action (e.g., mouth open, mouth closed, eyes open, eyes closed, smiling, frowning, etc.), lighting, or other characteristics." *See* col. 12, lines 18-25. However, the library of images cannot be considered a first set of <u>computer generated</u> views of the preregistered picture in various orientations because they are not computer generated. Bulman specifically states that the "image library may also be supplemented with synthesized images," which distinguishes the other images mentioned previously as not synthesized, and further states that even the synthesized are "interpolated or extrapolated from actual images." In either case, this embodiment of Bulman cannot be reasonably construed to teach "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received."

In addition, nothing in Bulman suggests that the views are received at a video receiver before the plurality of video images is received. In the embodiment of the personalized videotape (Example 5), the PC workstation retrieves the views and combines it with a video story. *See* col. 11, lines 30-36. However, Bulman does not state that the

views are scaled before the video is received. Finally, the combined image is stored with a VCR, which suggests that is not superimposed on video images as the video images are received.

Moreover, in the second embodiment (Example 6), Bulman expressly requires that this embodiment allows "production to occur in real time and be synthesized, sequenced and directly recorded on a video tape" and "the facial image to be scaled, rotated, and placed in real time on the background video image." *See* col. 12, lines 14-38. If the facial images are scaled and rotated in real time, Bulman does not describe "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received."

Wang does not fill in the gaps left by Lemmons and Bulman. Wang describes a system where a first camera supplies camera data for a virtual camera, which is information to define a viewpoint for a synthetic scene. *See* col. 7, lines 7-12. A position of an object is tracked with GPS. *See* col. 7, lines 13-19. The Office Action relies on Wang for object tracking. *See* Office Action, p. 8. Wang does not teach or suggest "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received."

Therefore, none of Lemmons, Bulman, Wang, or combinations thereof teach or suggest all of the features of claim 1. Accordingly, Assignee respectfully requests that the rejections of claim 1 and dependent claims 2-4, 6-11, and 14-18 be withdrawn.

Claim 12:

Claim 12 as amended recites "a memory storing a set of computer generated views of said picture for various orientations and associating with each computer generated view an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture associated with the corresponding orientation index, wherein said set of computer generated views is received before the video images."

The Office Action acknowledges that Lemmons does not teach or suggest these features. *See* Office Action, p. 13. For the reasons addressed above, Assignee submits that Bulman also does not teach or suggest storing a set of computer generated views of

said picture for various orientations and associating with each computer generated view an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture associated with the corresponding orientation index, wherein said set of computer generated views is received before the video images.

Accordingly, claim 12 is also patentable over Lemmons and Bulman. Therefore, Assignee respectfully requests that the rejections of claim 12 and dependent claim 13 be withdrawn.

Claim 20

Claim 20 is directed to a method for transmitting a stream of video images such that a preregistered picture can be superimposed on a predetermined area of a moving object depicted in the stream. Claim 20 recites "receiving a first set of computer generated views of the preregistered picture in various orientations; [and] in advance of transmission of the stream of video images, transmitting each computer generated view of the first set of computer generated views in association with an orientation index that identifies a physical orientation of the oriented view of the preregistered picture."

The Office Action acknowledges that Lemmons and Bulman do not "disclose transmitting the enhancement information in advance of transmission of the stream of video images." *See* Office Action, p. 18. However, the Office Action asserts that Lemmons '981 teaches this feature. Assignee respectfully disagrees.

Claim 20 does not recite "enhancement information" as characterized by the Office Action. Claim 20 recites "a first set of computer generated views of preregistered picture in various orientations." Lemmons '981 describes a system where a television program is transmitted on a first channel and enhancements to the program are transmitted on a second channel. *See* abstract. The enhancements may include management messages or program guides. *See* ¶18. The receiver may store combined data in a hard drive. *See* ¶ 29.

Management messages or program guides cannot be reasonably considered a set of computer generated views associated with an orientation index. Therefore, Lemmons '981 does not suggest, "in advance of transmission of the stream of video images, transmitting each computer generated view of the first set of computer

generated views in association with an orientation index that identifies a physical orientation of the oriented view of the preregistered picture," as recited by claim 20.

Therefore, none of Lemmons, Bulman, Lemmons '981, or combinations thereof teach or suggest all of the features of claim 20. Accordingly, Assignee respectfully requests that the rejections of claim 20 and dependent claim 21 be withdrawn.

Claim 21

Claim 21 recites transmitting a polygon representation of an obstruction with the video image and the selected orientation index.

The Office Action asserts Wang teaches the subject matter of Claim 21. Specifically, the Office Action reasons that "any object in the camera's field of view, including an obstruction, will be represented in the transmitted signal." Assignee respectfully disagrees with this reasoning. Wang does not suggest a polygon representation of an obstruction. The mere possibility that a filmed object could be considered an obstruction does not rise to the level of transmitting a polygon representation of an obstruction.

For at least these reasons, Assignee submits that none of the cited prior art teaches or suggests transmitting a polygon representation of an obstruction with a video image and an orientation index. Accordingly, Applicants submit that, in addition to the reasons above, claim 21 is allowable over the cited prior art.

Claim 22

Claim 22 recites "superimposing on each of said video images, each being received with a corresponding orientation index, the computer-generated view having the same orientation index, at a location and scaling indicated by size and location information transmitted with each video image."

None of the cited prior art teaches or suggest video images received with a corresponding orientation index and superimposing a computer-generated view having the same orientation index on each of the video images.

IV.   **Conclusion**

Therefore, in view of the above remarks, Assignee respectfully submits that this application is in condition for allowance and such action is earnestly requested.

If for any reason the Examiner is not able to allow the application, he is requested to contact the Assignee's undersigned attorney at (312) 321-4200.

Respectfully submitted,

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